



## **Innovative Materials & Processes for Advanced Carbon Capture Technologies (IMPACCT)**

Coal-fired power plants currently generate approximately 50 percent of the electricity in the United States. While coal is a cheap and abundant resource, the continued reliance upon coal as an energy source could potentially have serious consequences in terms of global warming.

The objective of this topic is to fund high risk, high reward research efforts that will revolutionize technologies that capture carbon dioxide from coal-fired power plants, thereby preventing release into the atmosphere.

ARPA-E seeks to complement existing DOE efforts in the field of carbon capture, led by the Office of Fossil Energy and National Energy Technology Laboratory, by accelerating promising ideas from the basic research stage towards large-scale demonstrations and ultimately, commercialization. Areas of interest include: low-cost catalysts to enable systems with superior thermodynamics that are not currently practical due to slow kinetics; robust materials that resist degradation from caustic contaminants in flue gas; and advanced capture processes that dramatically reduce the parasitic energy penalties and corresponding increase in the cost of electricity required for carbon capture.

### **Timeline**

- Secretary Steven Chu announced the funding opportunity on December 7, 2009.
- Vice President Biden announced the award selections on April 29, 2010.

### **Project stats**

- 15 projects, totaling \$32 Million
- Complete descriptions can be found at:  
<http://arpa-e.energy.gov/ProgramsProjects/IMPACCT.aspx>

### **Program Director**

- Dr. Mark Hartney

